

## **Sterile Neutrino Working Group**

### **Draft Bullet Summary Points**

February 1, 2015

- 1) Anomalies observed in neutrino experiments provide persistent hints at physics beyond the Standard Model three-neutrino paradigm. The P5 Planning Report recommends testing these anomalies with a targeted set of short-term, small-scale experiments.
- 2) Emphasis should be placed on direct tests of the existing  $\nu_e$  appearance, reactor, and source anomalies. A direct test should be capable of resolving an anomaly regardless of whether its source is new physics or unforeseen theory or experimental systematic error.
- 3) Experiments that can demonstrate an unambiguous oscillometric signature across the current suggested region are needed.
- 4) Experiments designed to test both the  $\nu_\mu$  to  $\nu_e$  appearance and  $\nu_e$  disappearance channels are needed.
- 5) We must ensure that any pion decay beam program has optimized  $\nu_\mu$  disappearance sensitivity at short baseline.
- 6) The US program should focus its resources on efforts with the best near-term prospects for discovery in the existing context of technological readiness, international competition, and budget realities.